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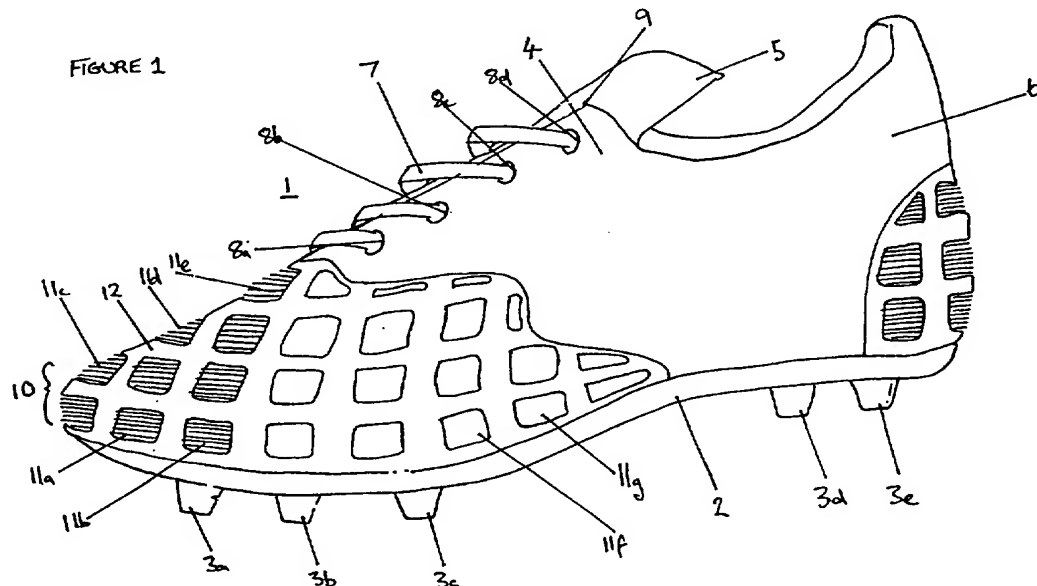
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(54) Abstract Title
Football boot with elasticated frictional surface

(57) A football boot 1 has a ball-controlling surface which comprises an elasticated frictional surface. Typically, this surface is provided in the form of diamond-shaped pieces 11a-11g of a frictional material fixed to an elasticated substrate 12. The frictional material may be formed from rubber having a grooved, castellated, or otherwise roughened surface. A silicone gel layer 13 is preferably included beneath the elasticated substrate. A method of making a football boot is also described, which method comprises the steps of providing a football boot having a studded sole 2 and a laced upper 4 and applying to the toe 10 and/or heel portions of the upper, a composite comprising a lower fluid layer, an intermediate elasticated layer, and an upper layer comprising pieces of a frictional material.



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FIGURE 1

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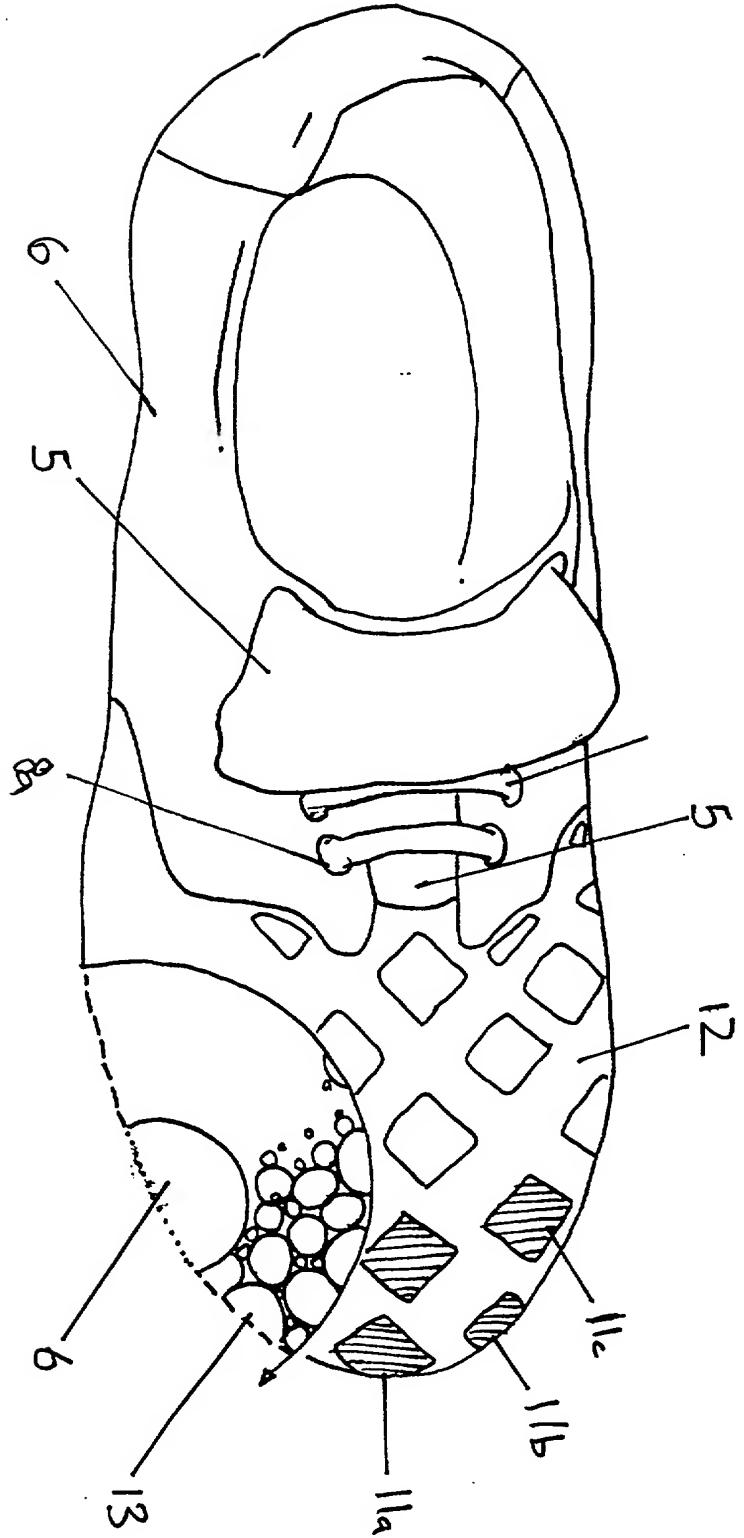
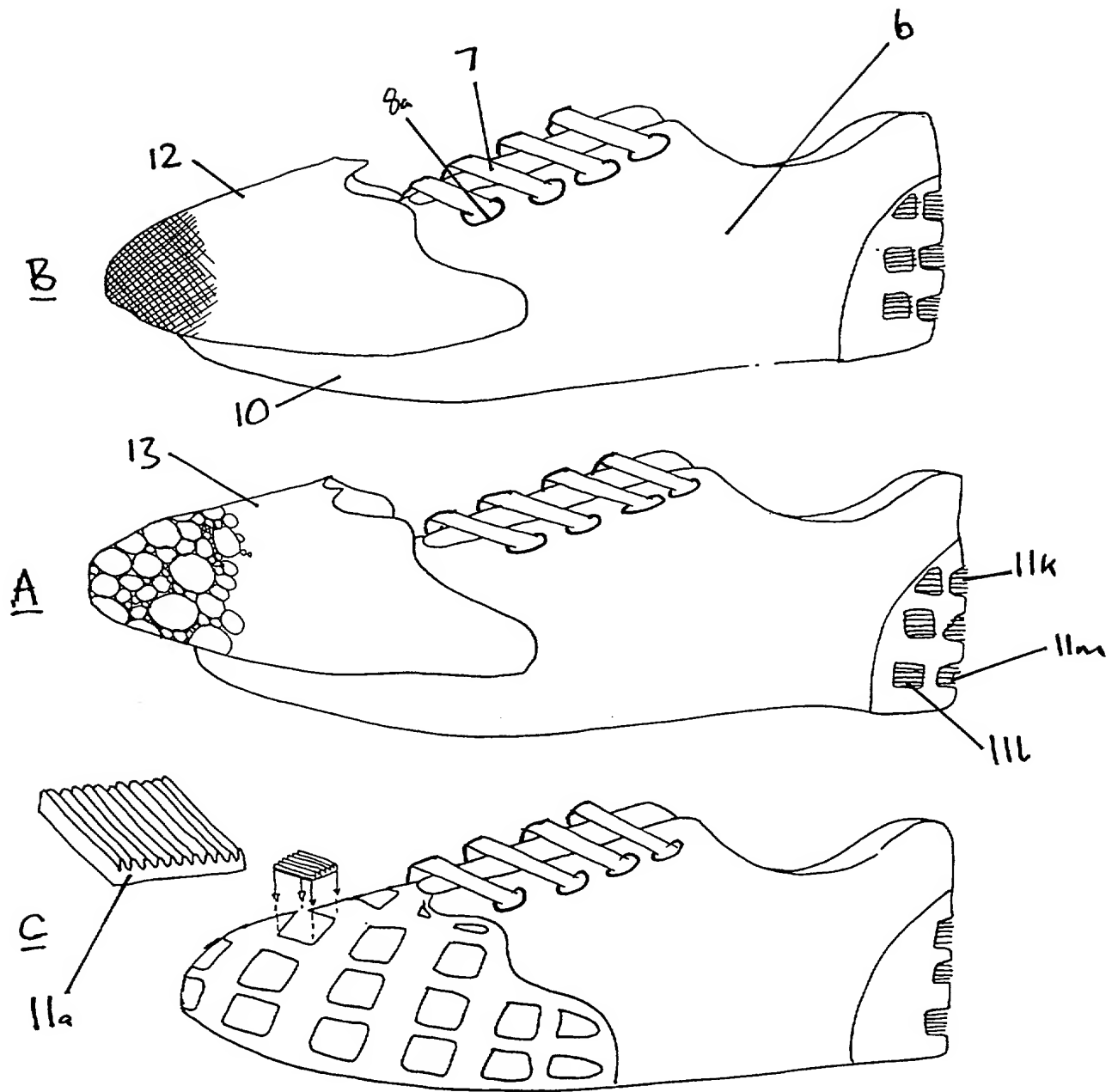


Figure 2

FIGURE 3



FOOTBALL BOOT

This invention relates to sports shoes and in particular sports shoes used in sports where the feet are used to control a ball. Examples of suitable applications for the invention are in soccer boots and rugby football boots.

Football boots are well known and have a tough upper surface suitable for handling the impact of a travelling ball or the force behind the wearer kicking the ball. Often the heel of the boot will also be of a toughened material to cope with impacts in back passing the ball. In some football boots, for example that known as the ADIDAS® PREDATOR™, the upper surface of the boot is provided with a ridged, relatively high friction surface. This added friction causes a ball approaching the surface of the boot from an oblique angle to slow down on contact with the surface giving the wearer greater opportunity to turn and direct the ball before passing it to another player. It may also make it easier for the wearer to stop a moving ball with his foot.

The present invention aims to provide a boot which gives further control to the wearer in manoeuvring a ball.

In accordance with the present invention there is provided a football boot having a ball controlling surface which comprises an elasticated frictional surface.

Conveniently the elasticated frictional surface may be provided in the form of a plurality of pieces of frictional material fixed to an elasticated surface. Alternatively the elastic material may be provided between adjacent pieces of frictional material. The surface may equally be provided in the form of a material which inherently has both elasticated and frictional properties.

As a ball hits the elasticated frictional surface the frictional material provides grip, thereby slowing the ball. At the same time the elasticated portion gives a little, travelling with the ball and once the ball has slowed sufficiently, pulls the ball back

towards the position at which it first impacted the shoe. This assists the wearer in the slowing and holding of the ball as he receives it, giving him better opportunity than in the prior art boots to control and redirect the ball.

The frictional material is preferably a rubber or rubber like material having a grooved, castellated or otherwise roughened surface. Where provided as a plurality of pieces, the pieces may be of any shape but are suitably square, rectangular or diamond shaped. The pieces may be fixed to an elasticated material substrate by any suitable means such as stitching or chemical bonding. Different pieces may, optionally, be provided with different types of frictional surface, for example, some may be grooved, others castellated. Optionally, the frictional surface may comprise raised figures or alphanumeric characters which may, for example, be indicative of the brand name of the shoe or the manufacture providing the shoe.

Suitable elastic materials include rubbers, or any fabrics incorporating an elastic material such as Lycra™ or Elastane™. Preferable the material is durable and wear resistant.

Preferably, the ball controlling surface will further comprise a layer of confined fluid beneath the elasticated layer. This fluid layer may conveniently be provided in the form of a gel such as a silicone gel. On impact by a ball, this fluid layer will give, absorbing some kinetic energy from the moving ball, again permitting the ball to be slowed down more quickly and effectively than with the prior art boots.

The ball controlling surface may be provided on the toe and upper front surface of the boot or the rear heel portion of the boot. Optionally both surfaces may be provided with a ball controlling surface according to the present invention.

In a further aspect the invention provides a method for manufacturing a football boot comprising;

providing a football boot having a studded sole and a lace up upper surface,

applying to the toe and/or heel portion of the upper surface a layered composite comprising a lower fluid layer, an intermediate elasticated layer and an upper layer comprising a plurality of pieces of frictional material.

The invention will now be further described with reference to the following Figures in which;

Figure 1 shows the external appearance of one embodiment of the invention;

Figure 2 shows the embodiment of Figure 1 with a section through part of the ball controlling surface to illustrate its layered structure.

Figure 3 illustrates schematically how the embodiment of figures 1 and 2 may be manufactured.

As can be seen from Figure 1, the basic shape of the boot 1 resembles that of known football boots. It has a sole 2 carrying a plurality of studs 3a, 3b, 3c,..... and an upper surface 4 comprising a tongue 5, a foot encapsulating portion 6 and laces 7 threaded through holes 8a, 8b, 8c,.... provided either side of a slashed opening 9 provided in the foot encapsulating portion 6. The toe portion 10 of the foot encapsulating portion 6 is provided with a ball controlling surface in accordance with the present invention. The upper surface of the ball controlling portion is provided with a plurality of diamond shaped pieces of rubber 11a, 11b, 11c,..... affixed to underlying elasticated layer 12. Each piece of rubber 11a, 11b, 11c,.... has a grooved surface to provide additional friction. It is to be noted that the pieces of rubber 11a, 11b, 11c,.... are slightly raised from elasticated layer 12 and are spaced slightly apart from each other, this in itself provides a frictional property to the ball controlling surface.

From Figures 2 and 3 it can be seen that between the foot encapsulating portion 6 of the shoe and the elasticated layer 12 is provided a fluid layer 13, in this case made up of a globular gel-like substance. The heel portion 14 of the foot

encapsulating portion 6 may also optionally be provided with a ball controlling surface in accordance with the present invention. In Figure 3, the letters A, B and C represent sequential steps in the manufacture of the embodiment illustrated.

It is to be understood that the foregoing represents just one embodiment of the invention and is not intended to detract from the true scope of the invention as claimed in the appended claims.

CLAIMS

1. A football boot having a ball controlling surface which comprises an elasticated frictional surface.
2. A football boot as claimed in claim 1 wherein the elasticated frictional surface is provided in the form of a plurality of pieces of frictional material fixed to an elasticated substrate.
3. A football boot as claimed in claim 2 wherein the pieces of frictional material are substantially diamond shaped.
4. A football boot as claimed in claim 1, 2 or 3 wherein the ball controlling surface further comprises a layer of confined fluid beneath the elasticated surface.
5. A football boot as claimed in any preceding claim wherein the frictional surface is provided by a rubber or rubber like material having a grooved, castellated or otherwise roughened surface.
6. A football boot as claimed in any preceding claim wherein the elasticated material incorporates Lycra™ or Elastane™.
7. A football boot as claimed in any of claims 4 to 6 wherein the confined layer of fluid comprises a gel.
8. A football boot as claimed in claim 7 wherein the gel comprises silicone.
9. A method for manufacturing a football boot comprising;
providing a football boot having a studded sole and a lace up upper surface,

applying to the toe and/or heel portion of the upper surface a layered composite comprising a lower fluid layer, an intermediate elasticated layer and an upper layer comprising a plurality of pieces of frictional material.

10. A football boot substantially as described herein with reference to the Figures 1, 2 and 3.
11. A method for the manufacture of a football boot substantially as described herein with reference to the Figures 1, 2 and 3.



INVESTOR IN PEOPLE

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Claims searched: 1-8 and 10

Examiner: Dr Paul R Minton
Date of search: 14 June 2000

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Patents Act 1977 Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.R): A3B.

Int Cl (Ed.7): A43B 5/02, 5/18, 7/32.

Other: ONLINE: WPI, EPODOC, JAPIO

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	GB 2286517 A (LOVELOCK). See particularly lines 6-22, page 5 and Figure 4.	1,2,5,6
X	GB 2259639 A (QUASERSPORT). See particularly line 18, page 9 and Figure 1.	1,2,5
Y	WO 99/21918 A1 (RHODIA). See particularly WPI Abstract Accession No. 1999-280396 [24].	4,7,8
X,Y	DE 3837504 A1 (KLAUSNITZER). See particularly WPI Abstract Accession No. 1990-148584 [20].	X: 1 at least Y: 4,7,8
X	DE 2743666 A1 (DEKANIC). See particularly WPI Abstract Accession No. 1978-C8010A [37], line 23, page 8 to line 3, page 9 and Figure 1.	1-3,5
Y	US 5784807 A (PAGEL). See particularly line 61, column 5 to line 45, column 6 and Figure 5B.	4,7

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.